

Please type a plus sign (+) inside this box → ☐

PTO/SB/08A (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.



Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

1

of

5

Complete if Known

Application Number

Filing Date

First Named Inventor

Group Art Unit

Examiner Name

Attorney Docket Number

1616

BAWA, R.



U.S. PATENT DOCUMENTS

Examiner Initials [*]	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
SEP		6,264,945		Fischetti et al.	07-24-2001	
		6,254,866		Fischetti et al.	07-03-2001	
		6,248,324		Fischetti et al.	06-19-2001	
		6,238,661		Fischetti et al.	05-29-2001	
		6,056,955		Fischetti et al.	05-02-2000	
		6,056,954		Fischetti et al.	05-02-2000	
		6,017,528		Fischetti et al.	01-25-2000	
		5,997,862		Fischetti et al.	12-07-1999	
		5,985,271		Fischetti et al.	11-06-1999	
		5,688,501		Merril et al.	11-18-1997	
		4,957,686		Norris	09-18-1990	
		5,604,109		Fischetti et al.	02-18-1997	
		5,882,631		Suga et al.	03-16-1999	
		5,741,487		Asai et al.	04-21-1998	
		6,113,887		Mori et al.	09-05-2000	
		4,122,158		Schmitt	10-24-1978	
		3,983,209		Schmitt	09-28-1976	
		6,113,887		Mori et al.	09-05-2000	
✓		4,885,163		Shaar et al.	12-05-1989	

RECEIVED
JAN 18 2002
TECH CENTER 1600/2900

FOREIGN PATENT DOCUMENTS

Examiner Initials [*]	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ⁵ (if known)				
SEP			WO 97 02351 A		CIBA GEIGY AG, et al.	01-23-1997		
			WO 96 07329 A		UNIV. MARYLAND	03-14-1996		
			EP 0 510 907 A		AGRICULTURAL & FOOD RES	10-28-1992		
			WO 99 04809 A		AMBI INC	02-04-1999		

Examiner
Signature

[Signature]

Date

Considered

9-4-03

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

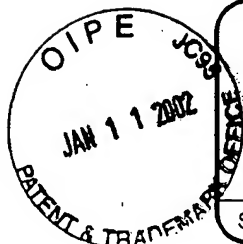
Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08B (08-00)
Approved for use through 10/31/2002. OMB 0651-0031

U. S. Patent and Trademark Office: U. S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.



Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 3 of 5

Complete if Known

Application Number

Filing Date

First Named Inventor

Group Art Unit

Examiner Name

Attorney Docket Number

1619

BAWA

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
<u>ELP</u>		Reisenger, et al. (1998) "Characterization of Escherichia coli lysis using a family of chimeric E-L Genes" <i>Fems Microbiol Letter.</i> 164(1) p.159-167	
		Sheehan MM, et al. (1997) "The lytic enzyme of the Pneumococcal Phage Dp-1: a chimeric lysis of intergeneric origin." <i>Mol. Microbiol.</i> 25(4) p. 717-725	
		Young et al. (2000) "Phages will out: strategies of host cell lysis." <i>Trends in Microbiology.</i> 8(4) p. 120-127	
		Garcia et al.(1997) "The Pneumococcal cell wall degrading enzymes: A modular design to create new lysins?" <i>Microb. Drug Resist.</i> 3(2): p. 199-211	
		Sheehan MM, et al., (1997) "The Lytic Enzyme of the Pneumococcal Phage Dp-1: a Chimeric Lysin of Intergeneric Origin" <i>Mol. Microbiol.</i> 25(4) p. 717-25	
		Garcia P, et al. (1997) "Bacteriophages of Streptococcus pneumoniae: a molecular approach" <i>Microb. Drug Resist.</i> 3(20) 165-76.	
		Sheehan, MM, et al.(1996) "Analysis of the catalytic domain of the lysin of the lactococcal bacteriophage Tuc2009 by chimeric gene assembling." <i>FEMS Microbiol.Lett.</i> 14(1): p. 23-28.	
		Sanz, JM, et al. (1996) "Construction of a multifunctional pneumococcal murein hydrolase by module assembly." <i>Eur. J. Biochem.</i> 235(3):601-5	
<u>✓</u>		Lopez R, et al. (1995) "Architecture and Domain Interchange of the Pneumococcal Cell Wall Lytic Enzymes" <i>Dev. Biol. Stand.</i> 85 p. 273-81.	

Examiner
Signature

Date

Considered

9-4-03

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08B (08-00)
Approved for use through 10/31/2002. OMB 0651-0031

U. S. Patent and Trademark Office: U. S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

4

of

5

Complete if Known

Application Number

Filing Date

First Named Inventor

Group Art Unit

Examiner Name

Attorney Docket Number

1619

BWA

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS

Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
EP		Croux, et al.(1993) "Interchange of Functional Domains Switches Enzymes Specificity: Construction of a chimeric pneumococcal-clostridial cell wall lytic enzyme." <i>Mol. Microbiology</i> . 9(5) p. 1019-25.	
		Diaz, E. et al. (1990) "Chimeric phage-bacterial enzymes: a clue to the modular evolution of genes. <i>PNAS</i> . 87(20) p. 8125-9.	
		Diaz, E. et al.(1990) "Chimeric pneumococcal cell wall lytic enzymes reveal important physiological and evolutionary traits." <i>J. Biol. Chem.</i> 266(9) p. 5464-71.	
		Lopez, et al. (1997) "The pneumococcal cell wall degrading enzymes: A modular design to create new lysins?" <i>Microbiological Drug Resistance</i> . 3(2) p. 199-211.	
		Loessner, et al. (1999) "Evidence for a holin-like protein gene fully embedded out of frame in the endolysin gene of <i>Staphylococcus aureus</i> Bacteriophage." (1999) <i>Journal of Bacteriology</i> , 181(15) p. 4452-4460.	
		Witte, A et al. (1998) "Characterization of <i>Escherichia coli</i> lysis using a family of chimeric E-L genes." <i>FEMS Microbiol. Lett.</i> , 164(1), p. 159-167	
		Martin, Ana C et al (1998): "Functional analysis of the two-gene lysis system of the pneumococcal phage Cp-1 in homologous and heterologous host cells." <i>Journal of Microbiology</i> 180(2), p. 210-217	
		Oki Masaya et al. (1997) "Functional and structural features of the holin HOL protein of the <i>Lactobacillus plantarum</i> phage phi-gle: Analysis in <i>Escherichia coli</i> system." <i>Gene (AMSTERDAM)</i> 197(1-2) p 137-145.	

Examiner
Signature

[Signature]

Date

Considered

9-4-03

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box → ☐

PTO/SB/08B (08-00)
Approved for use through 10/31/2002. OMB 0651-0031

U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet

5

of

5

Complete if Known

Application Number

Filing Date

First Named Inventor

Group Art Unit

Examiner Name

Attorney Docket Number

1619

BABA

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
ELP		Young, Ry et al. (2000) "Phages will out: strategies of host cell lysis." <i>Trends in Microbiology</i> , 8(3) p 120-127.	
		Nelson, et al. (2001) "Prevention and elimination of upper respiratory colonization of mice by Group A Streptococci by using a bacteriophage lytic enzyme." <i>PNAS</i> . 98 (7) p. 4107-4112	
		Garcia, et al. (1987) "Purification and biochemical characterization of the pneumococcal bacteriophage Cp-1 lysin." <i>Journal of Virology</i> 61(8) p. 2573 - 2580.	
		Loessner, et al. (1996) "Modified Listeria bacteriophage lysin genes (ply) allow efficient overexpression and one-step purification of biochemically active fusion proteins." <i>Applied and Environmental Microbiology</i> . 62(8) p. 3057-3060	

Examiner
Signature

[Signature]

Date

Considered

9-4-03

¹EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number. ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U. S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.